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Biogeosciences
Discussions

Interactive comment on "Drivers of the variability of the isotopic composition of water vapor in the surface boundary layer" *by* Jelka Braden-Behrens et al.

Anonymous Referee #3

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This manuscript deserves final publication in BG after a few minor corrections and editorial adjustments. The authors present their analysis in a clear and logical fashion. The dataset was obtained with a well-tested instrumental system. A key strength of this analysis is the measurement of the vapor isotopic flux to inform interpretation of physical drivers of the observed vapor isotopic variability.

Line 150: Unlike other independent variables, here the PBH height is model-derived. Can you comment on efforts (by you or others) to evaluate the ERA h against observed h for your geographic region?

Line 190: The message here is quite clear. Can you comment on the implication for

Keeling mixing line analysis?

Line 207: typo "betreen"

Line 215: you mean ". . . when we expect NO transpiration. . ."?

Line 233: Some people consider the lack of correlation between vapor delta and concentration as indicative of Rayleigh distillation associated with atmospheric convection. (When an air parcel movement span a large vertical distance, condensation occurs over a large range of temperature.)

Figure 1: ET unit is incorrect. The unit carried by IF is different from that shown in Figure 4

Figure 7 left panel: I don't see rain data

Figure 7 right panels: These basically reveal seasonal pattern of vapor d-excess. Can you comment on diurnal pattern of vapor d-excess and its implications?

Figure 2 & Table 3: How did you obtain TKE?

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